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Kwang Hee MOON: Species of the Genus *Menegazzia* (*Parmeliaceae, Lecanorales*) in Korea

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Summary: As a result of taxonomic studies of the genus *Menegazzia* (*Parmeliaceae, Lecanorales*) in Korea, four species are recognized; *M. anteforata* Aptroot, M. J. Lai & Sparrius, *M. nipponica* K. H. Moon, Kurok. & Kashiw., *M. primaria* Aptroot, M. J. Lai & Sparrius and *M. terebrata* (Hoffm.) A. Massal. Among them *M. anteforata* is a new addition to the present area. *Menegazzia asahinae* (Yasuda ex Asahina) R. Sant. is excluded from the lichen flora of Korea.

When Moon et al. (2006) revised the genus *Menegazzia* in eastern Asia, they recognized seven species including *M. asahinae* (Yasuda ex Asahina) R. Sant. They also pointed out that the holotype specimen of *M. asahinae* has esorediate lobes with elevated perforations and produces caperatic acid, although *M. asahinae* has previously been considered to be characterized by the production of stictic acid and by either sorediate or esorediate lobes. According to the findings of Moon et al. (2006), so-called *M. asahinae* in eastern Asia comprises three different taxa; *M. asahinae*, *M. anteforata* Aptroot, M. J. Lai & Sparrius and *M. nipponica* K. H. Moon, Kurok. & Kashiw.

In regard to the Korean species of *Menegazzia*, three species, *M. asahinae*, *M. primaria* Aptroot, M. J. Lai & Sparrius and *M. terebrata* (Hoffm.) Massal., have been reported in regional floristic or taxonomic works (Kim 1965, Park 1990, Huneck et al 1994, Hur et al 2004, Kashiwadani et al 2002, Kim 1983, Moon 1999, Moon et al. 2006). Recently the author revised Korean species of *Menegazzia* based on about 80 specimens preserved in NIBR and

TNS. As a result, she confirmed the occurrence of *M. anteforata*, *M. nipponica*, *M. primaria* and *M. terebrata* (Hoffm.) Massal. in Korea.

1) *Menegazzia anteforata* Aptroot, M. J. Lai & Sparrius in Bryologist **106**: 158 (2003).

This species is distinguished from allied species of the genus by the inflated lobes lacking soredia, the conically elevated perforations, the cup-shaped apothecia with distinct perforations and cracks on the margins and the presence of stictic acid.

This species is so far reported from Taiwan and Japan (Aptroot et al. 2003, Moon et al. 2006), but the distribution range now extends to Korea. In Korea, it was recently found in Mt. Gaji, Ulju-gun where it grows on bark of *Quercus*.

Specimen examined: Korea. Prov. Gyungsangbuk-do: around Sal-bawhi Rock, Mt. Gaji National Park, Duckhyun-ri, Sangbuk-myun, Ulju-gun (35°37'44.7"N, 129°00'39.2"E), on bark of *Quercus* sp., ca. 1040 m, 25 March 2009, K. H. Moon 10680 (NIBR).

2) *Menegazzia nipponica* K. H. Moon, Kurok. & Kashiw. in J. Jpn. Bot. **81**: 130 (2006).

The characteristic features for this species are the inflated lobes with elevated perforations, the presence of soralia and the production of stictic acid as a major chemical substance.

The occurrence of this species in Korea has not been reported before. However, one specimen collected in Jeju Island has characteristic features written above and can be identified with *Menegazzia nipponica*. The specimen was found on twigs of *Ilex* at elevation about 1100 m, where it grows together with

Ramalina pertusa Kashiw.

In 1990 Park reported *M. cf. asahinae* (Yasuda ex Asahina) R. Sant. from Korea based on a specimen collected in Mt. Halla (Y. S. Park 1950, DUKE). The author was not able to examine the specimen that Park (1990) reported. However, the following diagnostic features given by Park for the specimen, namely "rims of perforations raised; upper surface sorediate at apex" and "the presence of stictic acid together with its related substances" strongly suggests the sample to be *M. nipponica*. In addition, it is extremely doubtful whether *M. asahinae* grows in Korea, as it is endemic to Japan where it is restricted to the Amagi Mts., Shizuoka Prefecture on the Pacific side of Honshu.

Specimen examined: Korea. Jeju-do (Cheju Island): 1100 m high rest area, Jungmun-dong, Sogwipo-shi, on twigs of *Ilex rotunda*, ca. 1100 m, 12 May 2007, H. Kashiwadani (no. 48180b, TNS) & K. H. Moon.

3) *Menegazzia primaria* Aptroot, M. J. Lai & Sparrius in Bryologist 106: 158 (2003).

The diagnostic features for this species are the imbricate lobes with flushed perforations, the absence of soredia, the common occurrence of many pycnidia on the surface of lobes and the production of stictic acid.

In Korea this species has been reported from two localities (Mt. Sorak and Jeju Island), where it grows on bark of trees such as *Abies*, *Betula* and *Pinus* at an altitude of above 1400 m (Moon et al. 2006).

Specimens examined: Prov. Kangwon: en route from Mt Daechongbong to Hiungag hut, Mt. Sorak, Sokcho city (38°07'N, 128°28'E), on bark of *Pinus densiflora*, ca. 1400–1708 m, *Betula ermanii* dominated forest, 18 July 1996, K. H. Moon (no. 1301, TNS) & H. Kashiwadani. Prov. Jeju (Cheju): along trail of Songpanak to the summit, Mt. Halla, Namwon-up, Namcheju-gun, Jeju (Cheju) Island (33°21'N, 126°32'E), on bark of *Abies* sp., ca. 1500 m, 28 May 2001. M. Inoue 28735 (TNS).

4) *Menegazzia terebrata* (Hoffm.) A. Massal. in Neagen. Lich.: 3 (1854).

Menegazzia terebrata is easily distinguished

from allied species of the genus by having the inflated lobes with soralia, the flushed perforations on lobes and the production of stictic acid as a major chemical substance. This species is one of the most common foliose lichens widely distributed in the temperate and cool temperate regions of the world. In Korea, it is also very common throughout the Korean Peninsula from lowland to subalpine regions.

Representative specimens examined: Korea. Prov. Kangwon: Around Shinhung temple, Mt. Sorak, Sorak-dong, Sokcho City (38°10'N, 128°29'E), on bark of *Juglans* sp., ca. 300 m, 7 Oct. 1995, K. H. Moon (no. 648, NIBR) & H. Kashiwadani. Prov. Gyungsannam-do: en route from Junngsan-ri office of Mt Chiri National Park to rotary shelter, Jungsanri, Sancheon-gun, on bark of *Quercus mongolica*, 900–1500 m, 10 Sept. 2005, K. H. Moon (no. 8601, NIBR) & H. Kashiwadani. Prov. Jeju (Cheju): Namcheju-gun, Namwon-up, along the Songpanak trail on E slope of Mt. Halla above the Azalea Field Shelter, *Abies koreana* forest with scattered deciduous trees (33°21'N, 126°32'E), on *Prunus* sp., ca. 1500–1700 m, 28 May 2001, G. Thor 17511 (TNS); en route from Youngshil Rest Area to Witsae Oreum Shelter, Mt. Halla, Cheju Island (33°21'N, 126°32'E), on bark of *Abies koreana*, ca. 1650–1700 m, 24 May 2001, K. H. Moon 5723 (NIBR).

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韓国産センシゴケ属地衣類（ウメノキゴケ科、チャシブゴケ目）（文 光喜）

著者はかつて東アジア産のセンシゴケ属を検討し、同地域から7種を報告した。この中で、比較的広く分布するとされていたフクレセンシゴケ *Menegazzia asahinae* は希産種で産地も静岡県の太平洋側に限られていることを報告した。一方、韓国産のセンシゴケ属としてはナメラクダチイ *M. primaria*、フクレセンシゴケ、センシゴケ *M. terebrata* の3種が報告されている (Kim 1965, Park 1990, Huneck et al 1994, Hur et al 2004, Kashiwadani et al 2002, Kim 1983, Moon 1999, Moon et al. 2006)。この他、濟州島から採集されている1標本がヤマトクダチイ *M. nipponica* と新たに同定された。Park (1990) がフクレセンシゴケ類似種として報告した標本は検討する機会がなかったが、彼女の記載には「地

衣体は突出した孔口と粉芽を持ち、スチクチン酸を含む」と記されているので、ヤマトクダチイそのものである可能性が高い。フクレセンシゴケは突出した孔口を持つ点ではヤマトクダチイに似ているが、粉芽がなくカペラート酸を含むので容易に区別できる。尚、フクレセンシゴケは日本特産種で分布も静岡県天城山系に限られており、韓国からはこれまでに確認されていない。また、筆者の最近の調査で、クダチイ *M. anteforata* が韓半島南部に産することが明らかになった。従って、韓国産のセンシゴケ属には、クダチイ、ナメラクダチイ、センシゴケ、ヤマトクダチイの4種が含まれることになる。

(韓国・国立生物資源館生物資源研究部)